

Features

Regulated Converters

- 5W DIP Package
- Regulated Output
- Continuous Short Circuit Protection Auto-Restarting
- Wide Input 2:1 & 4:1
- UL94V-0 Package Material
- Cost Effective
- 100% Burned In
- Efficiency to 86%

ECONOLINE

DC/DC-Converter

REC5-S_DRW/H1 Series

**5 Watt
DIP24 / SMD
Single &
Dual Output**



RECOM

Selection Guide

Part Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
REC5-xx3.3SRW/H1	9 - 18, 18 - 36, 36 - 72	3.3	1200	75-77
REC5-xx05SRW/H1	9 - 18, 18 - 36, 36 - 72	5	1000	79-81
REC5-xx09SRW/H1	9 - 18, 18 - 36, 36 - 72	9	556	82-83
REC5-xx12SRW/H1	9 - 18, 18 - 36, 36 - 72	12	420	84-85
REC5-xx15SRW/H1	9 - 18, 18 - 36, 36 - 72	15	340	85-86
REC5-xx05DRW/H1	9 - 18, 18 - 36, 36 - 72	±5	±500	79-81
REC5-xx12DRW/H1	9 - 18, 18 - 36, 36 - 72	±12	±210	84-85
REC5-xx15DRW/H1	9 - 18, 18 - 36, 36 - 72	±15	±170	85-86
REC5-xx3.3SRWZ/H1	9 - 36**, 18 - 72	3.3	1200	75-76
REC5-xx05SRWZ/H1	9 - 36**, 18 - 72	5	1000	81-82
REC5-xx09SRWZ/H1	9 - 36**, 18 - 72	9	556	82-83
REC5-xx12SRWZ/H1	9 - 36**, 18 - 72	12	420	83-84
REC5-xx15SRWZ/H1	9 - 36**, 18 - 72	15	340	84-85
REC5-xx05DRWZ/H1	9 - 36**, 18 - 72	±5	±500	81-82
REC5-xx12DRWZ/H1	9 - 36**, 18 - 72	±12	±210	82-83
REC5-xx15DRWZ/H1	9 - 36**, 18 - 72	±15	±170	84-85

2:1 Input
(REC5-S/DRW/H1)
xx = 9-18Vin = 12
xx = 18-36Vin = 24
xx = 36-72Vin = 48

4:1 Input
(REC5-S/DRWZ/H1)
xx = 9-36Vin = 24
xx = 18-72Vin = 48

* add suffix "/A", "/B" or "/C" for Pinning, see next page

add suffix "/M" for metal case

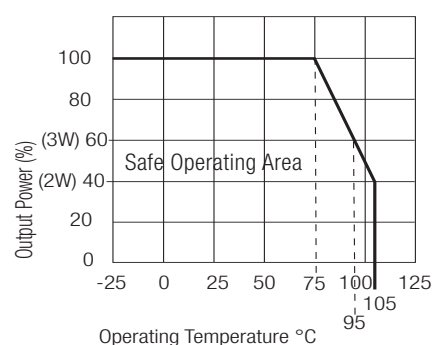
e.g. REC5-xxxxSRW(Z)H1/A/M = 1kVDC isol. / Pinout "A" / metal case

** 24V 4:1 Wide Range Input Types (REC5-24xxS/DRWZ/H1) should be derated while 9 Vin : 3.3Vout / 1100mA, 5Vout / 900mA.

Specifications (Core Operating Area)

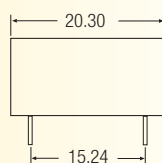
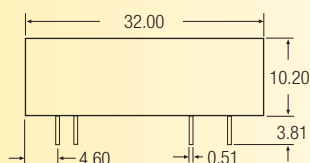
Input Voltage Range	2:1 & 4:1	
Output Voltage Accuracy	±2% max.	
Line Regulation (HL-LL)	±0.3% max.	
Load Regulation (for output load current change from 20% to 100%)	±0.6% max.	
Output Ripple and Noise (0,1µF capacitor on output, 20MHz BW)	50mVp-p max.	
Operating Frequency at Full Load	2:1 input	120kHz typ.
(at nominal input voltage)	4:1 input	200kHz typ.
Input Filter	Pi Network	
Efficiency at Full Load	see above	
Isolation Voltage SMD Pinout and metal case (see note1) (tested for 1 second)	1.000VDC min.	
Rated Working Voltage	(long term isolation)	see Application Notes
Isolation Voltage H1 types	(tested for 1 second)	1.000VDC min.
Rated Working Voltage	(long term isolation)	see Application Notes
Isolation Capacitance	60pF typ.	
Isolation Resistance	1 GΩ min.	
Short Circuit Protection	Continuous, Auto Restart	
Operating Temperature (free air convection)	-25°C to +75°C (see Graph)	
Storage Temperature Range	-55°C to +125°C	
Relative Humidity	MSL Level 1	95% RH
Case Material	Non-Conductive Plastic	
Thermal Impedance	Natural convection	20°C/W for metal case
Package Weight	13 g	
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F 850 x 10 ³ hours
(+75°C)		using MIL-HDBK 217F 206 x 10 ³ hours

Derating-Graph (Ambient Temperature)

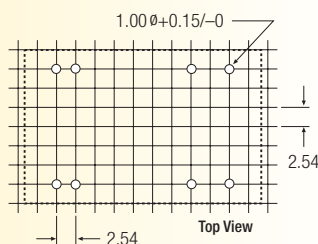
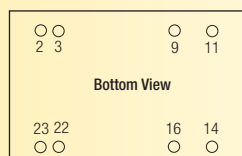


Package Style and Pinning (mm) DIP 24 , Wide Input 2:1 & 4:1

Package A



Recommended Footprint Details



Pin Connections

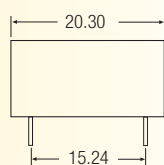
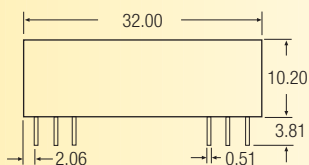
Pin #	Single	Dual
2	-Vin	-Vin
3	-Vin	-Vin
9	NC	Com
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Com
22	+Vin	+Vin
23	+Vin	+Vin

NC = No Connection
XX.X ± 0.5 mm
XX.XX ± 0.25 mm

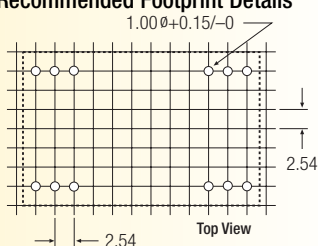
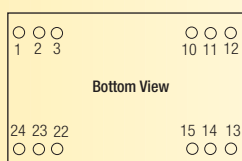
Package Style and Pinning (mm) DIP 24 , Wide Input 2:1 & 4:1



Package B



Recommended Footprint Details

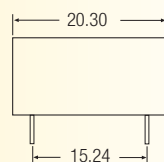
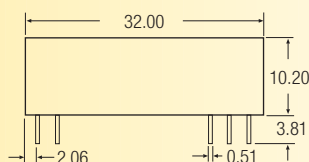


Pin Connections

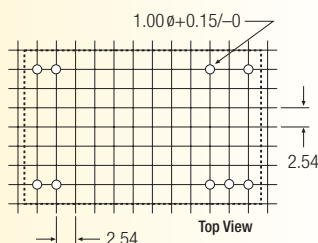
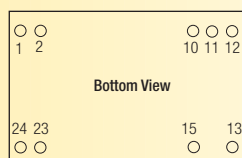
Pin #	Single	Dual
1	+Vin	+Vin
2	No Pin	-Vout
3	No Pin	Com
10	-Vout	Com
11	+Vout	+Vout
12	-Vin	-Vin
13	-Vin	-Vin
14	+Vout	+Vout
15	-Vout	Com
22	No Pin	Com
23	No Pin	-Vout
24	+Vin	+Vin

NC = No Connection
XX.X ± 0.5 mm
XX.XX ± 0.25 mm

Package C



Recommended Footprint Details

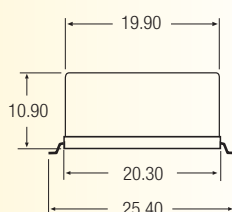
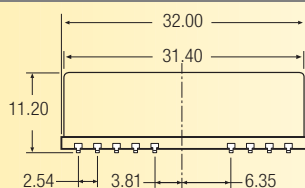


Pin Connections

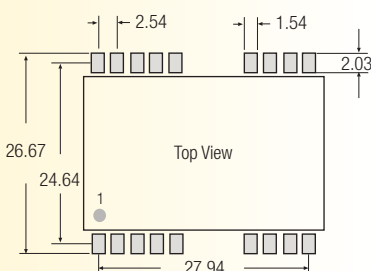
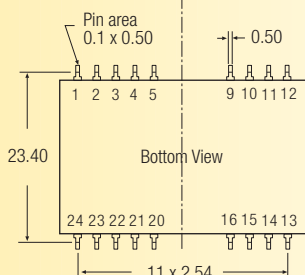
Pin #	Single	Dual
1	+Vin	+Vin
2	+Vin	+Vin
10	NC	Com
11	NC	Com
12	-Vout	NC
13	+ Vout	-Vout
15	NC	+Vout
23	-Vin	-Vin
24	-Vin	-Vin

NC = No Connection
XX.X ± 0.5 mm
XX.XX ± 0.25 mm

Mechanical drawings of DIP24 SMD case



Recommended Footprint Details



Tol.: ± 0.35 mm

length of plastic case is 31,8mm, length of metal case 32.0mm